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(54) MEASURING OPTICAL FIBER

(57)Abstract:

PURPOSE: To make it possible to use the measuring optical fiber for a long period even at a high temperature by inserting an optical fiber into a metallic tube, filling the inside of the tube with a mixture containing a substance having inorganic molecules in its structure and then executing heat treatment to make the mixture like ceramics or semiceramics.

CONSTITUTION: The structure arranging the optical fiber in the metallic tube made of stainless steel or aluminum is filled with the mixture containing the substance having inorganic molecules in its structure and the mixture is made like ceramics or semiceramics by a proper method. A mixture obtained by dispersing inorganic powder such as quartz or alumina into liquid binder such as silicone oil is used, when the mixture is heat-treated at a high temperature, the organic base of the binder is evaporated and the binder is united like ceramics. Since the optical fiber is fixed by the ceramic-like mixture, the heat resistance of the measuring optical fiber can be sharply improved.

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